

# NATURAL HISTORY MISCELLANEA

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## A New Record of the Rice Rat, *Oryzomys palustris palustris*, from Southern Illinois

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On July 7 and 8, 1949, two specimens of the rice rat, *Oryzomys palustris palustris* (Harlan), were obtained one-fourth mile east of Grantsburg, Johnson County, Illinois, by the authors while collecting with a field party from the University of Illinois Museum of Natural History.

In southern Illinois *Oryzomys palustris* is known from only two other localities: Olive Branch (Goldman, 1918) and Cache (Necker and Hatfield, 1941) both in Alexander County. The present locality is at the edge of the Ozark Hills and approximately 40 miles east-northeast of Olive Branch. The rice rats were trapped in the extensive cypress swamps bordering Bay Creek. The area appeared to be subject to periodic flooding as evidenced by extreme muddiness and pools of standing water. The first of these specimens (1312, D F. Hoffmeister) is a subadult female with the following measurements (in mm.): total-length 224, tail-length 108, hind foot 29, and ear 15.5; the second (39, C. A. McLaughlin) is a juvenal female measuring 206, 109, 29, and 16. Both specimens are deposited in the Museum of Natural History of the University of Illinois. The only other mammal taken in this area was *Peromyscus leucopus*.

It seems probable from this record that the rice rat occurs generally, but uncommonly, in swampy areas throughout portions of Illinois lying south of the Ozark Uplift. Evidence of a former, more extensive range in the middle west is afforded by several reports of skeletal remains of this species from aboriginal kitchen middens. In Ohio, Langdon (1881) has reported two crania of *Oryzomys palustris* from ashpits in the Madisonville Ancient Cemetery, Hamilton County, about 160 miles north of the present range. William R. Adams of the Laboratory of Comparative Osteology at Bloomington,

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Indiana, has skeletal material from Indian sites at Angel Mounds State Memorial, Vanderburgh County, Indiana, and from an archeological site near Cahokia Mounds State Park, Madison County, Illinois. These records are approximately 110 and 105 miles north of the present range, respectively. Baker (1936) mentions a skull, femur, and tibia-fibula of *O. palustris* from the Kingston kitchen midden site in the upper Illinois River valley near Peoria, Illinois. This locality is approximately 250 miles north of the northern limits of the range as now known. In these several cases remains of associated animals give little evidence of such former extension of range for other species of more southern faunal affinities. It thus seems unlikely that major climatic differences were involved.

It seems possible that this former northward extension of the range of *Oryzomys palustris* may have been due to an increase in population pressure resulting in eruptive spread beyond the normal range limits, such as is now being witnessed in the case of the cotton rat, *Sigmodon hispidus* subsp., in eastern Kansas (Cockrum, 1948). The usual fate of the animals thus forced into new areas for which they are only partially adapted is either persistence with the probable formation of new geographic races or the eventual extirpation of these displaced elements of the population. In the case of the rice rat, the latter was the result, with the destruction of the northern populations and the retreat of the animals to their present more southern range.

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